

ABSTRACT

The invention provides a film of an yttria-alumina complex oxide having a high peel strength with respect to a substrate. A mixed powder of powdery materials of yttria and alumina is sprayed on a substrate to form a sprayed film made of an yttria-alumina complex oxide. Preferably, the powdery material of yttria has a 50 percent mean particle diameter of not smaller than 0.1 μm and not larger than 100 μm , and the powdery material of alumina has a 50 percent mean particle diameter of not smaller than 0.1 μm and not larger than 100 μm . Preferably, the yttria-alumina complex oxide contains at least a garnet phase, and may further contain a perovskite phase.